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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEUNG, WAI LUN

ART UNIT

PAPER NUMBER

2613

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Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary	Application No. 10/604,410	Applicant(s) DOYLE ET AL.	
	Examiner Danny Wai Lun Leung	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Levi et al.** (*US005148504A*), in view of **Maczawa et al.** (*US006145024A*).

Regarding claim 34, **Levi** discloses an optical communication method, comprising:

sending an address of a second core (*103, fig 10*) and control signals (*col 4, ln 32-48 describes processing instructions, path choice, path direction, are encoded in the header*) from a first core (*102, fig 10*) to a first optic controller (*optical switch logic element 111, fig 10; col 13, ln 29-31*) in an integrated circuit (*100, fig 10*), said integrated circuit comprising:

the first core (*102, fig 10*),

the first optic controller (*optical switch logic element 111, fig 10; also shown as control 93, fig 9*) connected to the first core,

a plurality of optical transmitters under control of the first optic controller (*resonators 90, fig 9 emit optical signal and are controlled by 93; also shown as electrical-to-optical conversion elements 109, fig 10; col 12, ln 65-col 13, ln 6*),

the second core (*103, fig 10*),

a second optic controller (*optical switch logic element 112, fig 10; also shown as control 93, fig 9*) connected to the second core,

a plurality of optical receivers (*Optical-to-electrical conversion elements 110, fig 10; col 13, ln 26-29*) under control of the second optic controller (*col 13, ln 29-31*), and

a plurality of optical channels (*106, fig 10*), wherein each optical channel extends from one of the optical transmitters to one of the optical receivers (*as shown in fig 10*); selecting a first optical channel of the plurality of optical channels for subsequently transmitting an optical signal over the first optical channel (*col 13, ln 24-31*), wherein the first optical channel extends from a first optical transmitter of the plurality of optical transmitters and a first optical receiver of the plurality of optical receivers (*fig 10*), and wherein said selecting is performed by the first optic controller (*col 13, ln 24-26*); after said selecting, transmitting data from the first optic controller to the first optical transmitter (*col 13, ln 2-6*);

encoding into optical data, by the first optical transmitter, the transmitted data (*col 13, ln 26-29*); and

transmitting the optical data from the first optical transmitter to the first optical receiver via the first optical channel (*106, fig 10*).

Levi does not disclose expressly wherein decoding, by the first optic controller, the address; and perform the selecting after said decoding. **Maezawa**, from the same field of endeavor, teaches a method of optical transmission comprising: decoding, by an optic controller, the address (*col 14, ln 36-43*); and after said decoding, selecting a first optical channel of the plurality of optical channels for subsequently transmitting an optical signal over the first optical channel (*col 14, ln 43-50*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to use **Levi**'s optic controller to decode the address of the second core before selecting a first optical channel of the plurality of optical channels as taught

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by **Maczawa**. The motivation for doing so would have been to perform faster path selection by decoding the address using the controller.

As to claim 36, **Maczawa** further teaches wherein said selecting takes into account one or more defective optical channel of the plurality of optical channels (*col 18, ln 31-49*).

As to claim 35, **Levi** further discloses wherein said selecting takes into account a channel length of each optical channel of the plurality of optical channels ().

3. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Levi et al.** (*US005148504A*), in view of **Maczawa et al.** (*US006145024A*) as discussed above regarding claim 34, and further in view of examiner's **official notice**.

Regarding claim 35, **the combination of Levi and Maczawa** discloses the method in accordance to claim 34 as discussed above. **It** does not disclose expressly wherein said selecting takes into account one or more defective optical channel of the plurality of optical channels. However, Examiner takes **official notice** that it is common and well known to select optical channel for transmission by taking into account a channel length of each optical channel of a plurality of optical channels. Therefore, it would have been obvious or a person of ordinary skill in the art at the time of invention to take into account one or more defective optical channel of the plurality of optical channels onto the selecting step in **the combination of Levi and Maczawa's** system as it is **common and well known**. The motivation for doing so would have been to enhance transmission speed by taking into account channel length when selecting transmission channel.

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4. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Levi et al.** (*US005148504A*), in view of **Maezawa et al.** (*US006145024A*), as applied to claim 34 above, and further in view of **Chappel et al.** (*US006081527A*).

Regarding claim 43, **the combination of Levi and Maezawa** discloses the method in accordance to claim 34 as discussed above. **It** does not disclose expressly wherein the method further comprises after said transmitting the optical data: handshaking between the first optical transmitter and first optical receiver to communicate between the first optical transmitter and first optical receiver such that said transmitting the optical data was successful.

Chappel, from the same field of endeavor, teaches a method comprises after transmitting the optical data: handshaking between the first optical transmitter and first optical receiver to communicate between the first optical transmitter and first optical receiver such that said transmitting the optical data was successful (*col 5, ln 48-67*), wherein the handshaking comprises exchanging messages between the optical transmitter and first optical receiver over an optical channel of the plurality of optical channels (*col 6, ln 1-11*).

Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to use the second optical channel of the plurality of optical channel in the combination of **Levi and Maezawa's** system for handshaking between the first optical transmitter and first optical receiver to communicate between the first optical transmitter and first optical receiver such that said transmitting the optical data was successful after transmitting the optical data, as taught by **Chappel**, wherein the handshaking comprises exchanging messages between the optical transmitter and first optical receiver over the second optical channel of the

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plurality of optical channels. The motivation for doing so would have been to ensure that no data are lost by performing handshaking between the optical transmitter and the first optical receiver.

5. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Levi et al.** (*US005148504A*), in view of **Maezawa et al.** (*US006145024A*), as applied to claim 34 above, and further in view of **Habbab et al.** (*US4797879*)

Regarding to claim 37, the combination of **Levi and Maezawa** discloses the method as discussed above regarding claim 34. **It** does not disclose expressly that responsive to said detecting, re-transmitting the optical data from the first optical transmitter to the first optical receiver via a second optical channel of the plurality of optical channels.

Habbab, from the same field of endeavor, teaches a method of detecting a collision with optical data during transmitting the optical data, and responsive to said detecting, re-transmitting the optical data from the first optical transmitter to the first optical receiver via a second optical channel of the plurality of optical channels (*col 4, ln 7-34*).

Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to re-transmitting the optical data from the first optical transmitter to the first optical receiver via a second optical channel of the plurality of optical channels, as taught by **Habbab** in the combination of **Levi and Maezawa's** method. The motivation for doing so would have been to resolve the collision problem in the combination of **Levi and Maezawa's** method by re-transmitting the optical data from the first optical transmitter to the first optical receiver via a second optical channel of the plurality of optical channels such that the transmission system is faster and more efficient.

6. Claims 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Levi et al.** (*US005148504A*), in view of **Maezawa et al.** (*US006145024A*), as applied to claim 34 above, and further in view of **Wu et al.** (*US005946116A*).

Regarding to claim 38, **the combination of Levi and Maezawa** discloses the method in accordance to claim 34 as discussed above. It does not disclose expressly wherein the first optical channel comprises a first optic channel oriented in a first direction, a second optic channel segment oriented in a second direction that is perpendicular to the first direction, and a redirection termination disposed between the first and second optic channels for causing the optical data propagating in the first optic channel in the first direction to be diverted into the second optic channel to propagate in the second optic channel in the second direction.

Wu, from the same field of endeavor, teaches an optical transmission method wherein a first optical channel (*input 500, fig 10*) comprises a first optic channel oriented in a first direction (*polarization Rotator array 700, fig 10, oriented vertically*), a second optic channel segment oriented in a second direction that is perpendicular to the first direction (*704, fig 10, oriented horizontally*), and a redirection termination disposed between the first and second optic channels (*PBS 800, fig 10*) for causing the optical data propagating in the first optic channel in the first direction to be diverted into the second optic channel to propagate in the second optic channel in the second direction (*as described in col 8, ln 56 – col 9, ln 26; this is similar to applicant's fig 10 and fig 2A as disclosed in the specification*).

Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to apply **Wu's** teaching wherein the first optical channel comprises a first optic

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channel oriented in a first direction, a second optic channel segment oriented in a second direction that is perpendicular to the first direction, and a redirection termination disposed between the first and second optic channels for causing the optical data propagating in the first optic channel in the first direction to be diverted into the second optic channel to propagate in the second optic channel in the second direction, to route the combination of **Levi and Maezawa's** optical signal from one channel to another. The motivation for doing so would have been to route optical signal from one channel to another while having low inter-channel crosstalk and low insertion loss (*Wu, col 10, ln 41-47*) by having a first optical channel comprises a first optic channel oriented in a first direction, a second optic channel segment oriented in a second direction that is perpendicular to the first direction, and a redirection termination disposed between the first and second optic channels for causing the optical data propagating in the first optic channel in the first direction to be diverted into the second optic channel to propagate in the second optic channel in the second direction.

As to claim 39, **Wu** further discloses wherein the redirection termination is slant-shaped (*as shown in fig 10*);

As to claims 40-42, absent any teaching of criticality, it would have been an engineering design choice to make the redirection termination as described above as slant-shaped, curved, hemispherical-shaped, or cone-shaped. Furthermore, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Swain et al., 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412; Minnesota Mining and Mfg. Co. v. Coe, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; Allen et al. v. Coe, 77 App. D.C. 324, 135 F.2d 11, 57 USPQ 136.

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Also In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.).

Response to Arguments

7. Applicant's arguments filed 8/30/2006 have been fully considered but are moot in view of the new ground(s) of rejection.
8. 35 USC 112 rejections are withdrawn in view of applicant's amendments.
9. Regarding to claims 43, 37, 38-42, applicant did not make any arguments against the references Chappel, Habbab, or Wu, and failed to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited.

Conclusion

10. The prior art made of record in previous actions and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Wai Lun Leung whose telephone number is (571) 272-5504. The examiner can normally be reached on 9:30am-9:00pm Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DWL

October 28, 2006



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